

Application Serial No.: 10/054,238

Attorney Dkt. No.: VANHORN-01

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (currently amended) A process for preparing a cellulose modified aggregate concrete mixture comprising:

selecting a quantity of cellulose material;

purifying and grinding said material so as to form purified cellulose fibers therefrom;

drying said purified cellulose fibers;

preparing a fortifying solution comprised of compounds especially selected to strengthen, reinforce and protect the aggregate concrete to be formed therefrom at least one fortifying component and sufficient water to enable said components to be thoroughly absorbed upon and within substantially all of said fiber for the cellulose modified for the final aggregate concrete mixture;

applying said fortifying solution to and mixing said solution with the dry a quantity of dried cellulose fibers until said solution and the at least one fortifying components component therein have thoroughly coated and penetrated said fibers to produce a fortified fiber mixture; and

admixing a sufficient quantity of cement to said fortified fiber mixture, wherein said quantity of cement is sufficient so as to coat the fibers within said fortified fiber mixture and utilize substantially all remaining water therein to hydrate and activate said the cement coating wherein such that a cellulose modified aggregate concrete mixture is formed demonstrating sufficient hydration so as to allow said concrete mixture to be press molded and be fully cured into any desired shape without the necessity of extracting water therefrom.

2. (previously presented) The process of claim 1 wherein the cellulose material is a manufactured paper fiber.

Application Serial No.: 10/054,238

Attorney Dkt. No.: VANHORN-01

3. (previously presented) The process of claim 1 wherein the cellulose material is recycled paper.
4. (previously presented) The process of claim 1 wherein the cellulose material is an industrial waste material.
5. (previously presented) The process of claim 1 wherein the cellulose fibers are treated with boran borax prior to treatment with said fortifying solution.
6. (previously presented) The process of claim 1 wherein the cellulose fibers are treated with boric acid prior to treatment with said fortifying solution.

7. (previously presented) The process of claim 1 wherein the cellulose fibers are treated with an ammonia solution prior to treatment with said fortifying solution.
8. (previously presented) The process of claim 7 wherein the ammonia solution is an ammonium sulfate solution.
9. (previously presented) The process of claim 1 wherein the fibers are dried utilizing an artificial heat source.
10. (previously presented) The process of claim 1 wherein the fibers are dried utilizing a centrifuge.
11. (previously presented) The process of claim 1 wherein the fibers are sun-dried.
12. (previously presented) The process of claim 1 wherein the fortifying solution is comprised of calcium oxide, silica oxide, water proof sealer, activator and water.

Application Serial No.: 10/054,238

Attorney Dkt. No.: VANHORN-01

13. (previously presented) The process of claim 12 wherein the activator is calcium chloride, calcium hydroxide or combinations thereof.

14. (previously presented) The process of claim 12 wherein said fortifying solution is further comprised of fly ash.

15. (previously presented) The process of claim 12 wherein said fortifying solution further comprises calcium sulfate, calcium carbonate or combinations thereof.

16. (previously presented) The process of claim 12 wherein said fortifying solution further comprises calcium silicate, aluminum oxide or combinations thereof.

17. (previously presented) The process of claim 1 wherein said fortifying solution is comprised of calcium chloride, water proof sealer, calcium sulfate, fly ash, calcium oxide and water.

18. (previously presented) The process of claim 17 wherein said calcium chloride is selected to be present in an amount equal to approximately $\frac{1}{4}$ gallons for each 75 gallons of water.

19. (previously presented) The process of claim 17 wherein said water proof sealer is selected to be present in an amount equal to approximately $\frac{1}{4}$ gallons for each 75 gallons of water.

20. (previously presented) The process of claim 17 wherein said calcium sulfate is selected to be present in an amount equal to approximately 21.5 weight percent based upon the total dry weight of the fortifying solution.

Application Serial No.: 10/054,238

Attorney Dkt. No.: VANHORN-01

21. (previously presented) The process of claim 17 wherein said fly ash comprises approximately 30 weight percent of said fortifying solution based on the total dry weight thereof.

22. (previously presented) The process of claim 17 wherein said calcium oxide comprises approximately 65 weight percent of said fortifying solution based on the total dry weight thereof.

23. (previously presented) The process of claim 1 wherein the cement admixed to the coated fibers is Portland cement.

24. (currently amended) The process of claim 1 wherein the cement admixed to the coated fibers is selected to be present in an amount equal to approximately 15 weight percent to 50 weight percent of the total dry weight of the fortifying solution.

25. (previously presented) The process of claim 1 wherein the cement admix to the coated fibers is admixed with sand.

26. (currently amended) A process for preparing a cellulose modified aggregate while simultaneously reclaiming submerged land comprising:

selecting a cellulose based waste material;

adding depositing said cellulose based waste material to into a selected body of water;

allowing maintaining said cellulose waste material to remain in said body of water until said waste material has absorbed a substantial amount of water therefrom;

removing said cellulose waste material from said body of water and allowing said material to sun-dry;

grinding said treated material so as to remove extraneous materials therefrom and so as to comminute said materials into fibers;

Application Serial No.: 10/054,238

Attorney Dkt. No.: VANHORN-01

adding fortifying solution to said sun-dried cellulose fibers so as to strengthen, preserve, protect and fortify said material;

treating said sun-dried fibers with at least one activating agent and at least one water sealer admix component under high pressure and at increased temperature to cure said treated fibers into a raw aggregate material; and

further grinding said raw aggregate material so as to yield a lightweight, waterproof material which may be easily used to produce a modified cellulose aggregate cement with the addition of cement and water.

27. (previously presented) The process of claim 26 wherein the cellulose material is recycled paper.

28. (previously presented) The process of claim 26 wherein the cellulose material is an industrial waste material.

29. (previously presented) The process of claim 26 wherein the cellulose material is natural waste material.

30. (previously presented) The process of claim 29 wherein the natural waste material is aquatic vegetation.

31. (previously presented) The process of claim 26 wherein the submerged land is a lake, pond or swamp land.

32. (previously presented) The process of claim 26 wherein the fortifying solution is comprised of calcium oxide, silica oxide and water.

33. (previously presented) The process of claim 26 wherein the fortifying solution is further comprised of fly ash.

Application Serial No.: 10/054,238

Attorney Dkt. No.: VANHORN-01

34. (previously presented) The process of claim 32 wherein the fortifying solution is further comprised of fly ash.

35. (previously presented) The process of claim 32 wherein the fortifying solution further comprises calcium sulfate, calcium carbonate or combinations thereof.

36. (previously presented) The process of claim 32 wherein the fortifying solution further comprises calcium silicate, aluminum oxide or combinations thereof.

37. (previously presented) The process of claim 26 wherein the activator is calcium chloride, calcium hydroxide or combinations thereof.

38. (previously presented) The process of claim 26 further comprising adding water and cement to said raw aggregate material so as to form a cellulose modified aggregate cement.

39. (previously presented) The process of claim 38 further comprising the addition of sand to said material to form a cellulose modified aggregate cement.

40. (previously presented) The process of claim 26 wherein the sun-dried cellulose waste material is treated with an anti-mold solution to prevent growth of mold thereupon and then sun-dried.

41. (previously presented) The process of claim 40 wherein the anti-mold solution is ammonium sulfate.

42. (previously presented) The process of claim 40 wherein an artificial heat source is utilized to dry the cellulose waste material treated with an anti-mold solution.

Application Serial No.: 10/054,238

Attorney Dkt. No.: VANHORN-01

43. (Currently Amended) The process of claim 26 wherein the aggregate is cured at a temperature of approximately 120 degrees Fahrenheit.

44. (previously presented) The process of claim 43 wherein an artificial heat source is utilized to cure said aggregate.

45. (previously presented) The process of claim 26 wherein an artificial heat source is utilized to dry the cellulose waste material.

46. (new) A process for preparing a cellulose modified aggregate concrete mixture comprising:

preparing a fortifying solution comprised of at least one fortifying component and sufficient water for the final aggregate concrete mixture;

applying said fortifying solution to and mixing said solution with a quantity of dried cellulose fibers until said solution and the at least one fortifying component therein have thoroughly coated and penetrated said fibers to produce a fortified fiber mixture; and

admixing a quantity of cement to said fortified fiber mixture, wherein said quantity of cement is sufficient to coat the fibers within said fortified fiber mixture and utilize substantially all remaining water therein to hydrate and activate the cement coating such that a cellulose modified aggregate concrete mixture is formed demonstrating sufficient hydration so as to allow said concrete mixture to be press molded and be fully cured into any desired shape without the necessity of extracting water therefrom.

47. (new) The process of claim 46 wherein the cellulose fibers are comprised of manufactured paper fiber.

Application Serial No.: 10/054,238

Attorney Dkt. No.: VANHORN-01

48. (new) The process of claim 46 wherein the cellulose fibers are comprised of recycled paper.

49. (new) The process of claim 46 wherein the cellulose fibers are comprised of industrial waste material.

50. (new) The process of claim 46 wherein the cellulose fibers are treated with borax borax prior to treatment with said fortifying solution.

51. (new) The process of claim 46 wherein the cellulose fibers are treated with boric acid prior to treatment with said fortifying solution.

52. (new) The process of claim 46 wherein the cellulose fibers are treated with an ammonia solution prior to treatment with said fortifying solution.

53. (new) The process of claim 52 wherein the ammonia solution is an ammonium sulfate solution.

54. (new) The process of claim 46 wherein the cellulose fibers are dried utilizing an artificial heat source.

55. (new) The process of claim 46 wherein the cellulose fibers are dried utilizing a centrifuge.

56. (new) The process of claim 46 wherein the cellulose fibers are sun-dried.

57. (new) The process of claim 46 wherein the fortifying solution is comprised of calcium oxide, silica oxide, water proof sealer, activator and water.

Application Serial No.: 10/054,238

Attorney Dkt. No.: VANHORN-01

58. (new) The process of claim 57 wherein the activator is calcium chloride, calcium hydroxide or combinations thereof.

59. (new) The process of claim 57 wherein said fortifying solution is further comprised of fly ash.

60. (new) The process of claim 57 wherein said fortifying solution further comprises calcium sulfate, calcium carbonate or combinations thereof.

61. (new) The process of claim 57 wherein said fortifying solution further comprises calcium silicate, aluminum oxide or combinations thereof.

62. (new) The process of claim 46 wherein said fortifying solution is comprised of calcium chloride, water proof sealer, calcium sulfate, fly ash, calcium oxide and water.

63. (new) The process of claim 62 wherein said calcium chloride is selected to be present in an amount equal to approximately $\frac{3}{4}$ gallons for each 75 gallons of water.

64. (new) The process of claim 62 wherein said water proof sealer is selected to be present in an amount equal to approximately $\frac{3}{4}$ gallons for each 75 gallons of water.

65. (new) The process of claim 62 wherein said calcium sulfate is selected to be present in an amount equal to approximately 21.5 weight percent based upon the total dry weight of the fortifying solution.

66. (new) The process of claim 62 wherein said fly ash comprises approximately 30 weight percent of said fortifying solution based on the total dry weight thereof.

Application Serial No.: 10/054,238

Attorney Dkt. No.: VANHORN-01

67. (new) The process of claim 62 wherein said calcium oxide comprises approximately 65 weight percent of said fortifying solution based on the total dry weight thereof.

68. (new) The process of claim 46 wherein the cement admixed to the coated fibers is Portland cement.

69. (new) The process of claim 46 wherein the cement admixed to the coated fibers is selected to be present in an amount equal to approximately 15 weight percent to 50 weight percent of the total dry weight of the fortifying solution.

70. (new) The process of claim 46 wherein the cement admix to the coated fibers is admixed with sand.

AM
71. (new) The process of claim 46 wherein said step of applying said fortifying solution to and mixing said solution with a quantity of thoroughly dried cellulose fibers is preceded by the step of preparing the quantity of cellulose fibers, wherein said preparing includes purifying and grinding the quantity of cellulose fibers.

72. (new) The process of claim 46 wherein said step of applying said fortifying solution to and mixing said solution with a quantity of thoroughly dried cellulose fibers is preceded by the step of preparing the quantity of cellulose fibers, wherein said preparing includes drying said purified cellulose fibers.